



WHAT DO I NEED TO KNOW ABOUT MY RISK WHEN IT COMES TO A LEVEE SYSTEM?

While levees can reduce the risk of flooding, they can not eliminate that risk. It is still critical that property owners understand their risk and take the appropriate steps to mitigate that risk, including purchasing flood insurance.

To learn more about flood insurance options, visit:

› [National Flood Insurance Program](#)

To find your flood map and understand your risk, visit:

› [FEMA's Map Service Center](#), or, contact a map specialist at the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627.

› [National Levee Database](#)

There are also important steps property owners can take to reduce their risk beyond purchasing insurance. Mitigation activities can be as simple as switching from carpeting to tile on the first floor or as significant as elevating the entire structure or mechanical equipment. To learn more, visit:

› FEMA's "[Protecting Your Home and Property From Flood Damage](#)"

For community officials, FEMA also has multiple resources on mitigation techniques and best practices, including:

› [Public Assistance Resources](#)

› [Floodproofing Non-Residential Buildings](#)

› [Hazard Identification and Risk Assessment](#)

› [Improving Natural Hazard Safety in Schools](#)

› [Adopting and Enforcing Regulatory Tools, Including Ordinances, Regulations, and Building Codes](#)

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MICHIGAN: LEVEES



66 | LEVEE SYSTEMS

6 | LEVEE SYSTEMS THAT THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) RATES AS HIGH-RISK

8.7K | STRUCTURES IMPACTED BY LEVEES ACROSS THE STATE



.3% | POPULATION THAT IS IMPACTED BY LEVEE SYSTEM



4% | POPULATION THAT IS IN THE SPECIAL FLOOD HAZARD AREA (SFHA)

20K

HOMES THAT HAVE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) POLICIES IN THE STATE (NOT LEVEE SPECIFIC)

12.2K
NFIP CLAIMS

\$89M
TOTAL PAID OUT

BREAKDOWN OF WHO OWNS THE LEVEE SYSTEM (FEDERAL, STATE, LOCAL, PRIVATE)

- 0 | USACE CONSTRUCTED, USACE OPERATIONS AND MAINTENANCE (O&M)
- 10 | USACE CONSTRUCTED, PUBLIC SPONSOR O&M
- 63 | NON-FEDERALLY CONSTRUCTED, LOCAL O&M
- 0 | OTHER FEDERAL AGENCY

83

CRITICAL FACILITIES IMPACTED BY LEVEE SYSTEMS ACROSS THE STATE



12

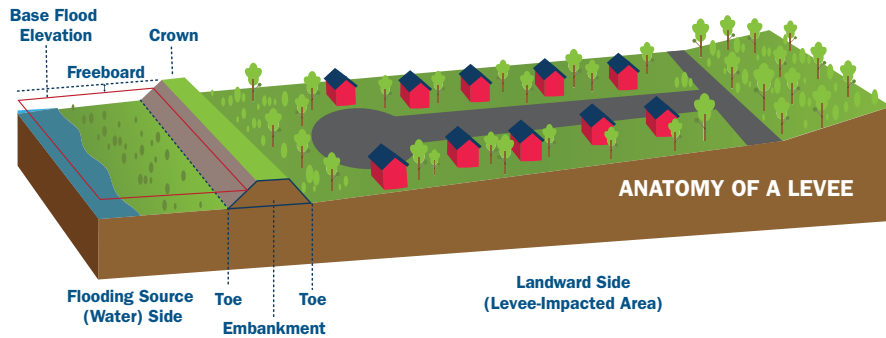
PREVIOUSLY DECLARED FLOODING DISASTERS



REGION V

1,187 | LEVEES IN REGION V

265K | STRUCTURES IMPACTED BY LEVEES IN REGION V



WHAT IS A LEEVEE?

For hundreds of years, levees have been constructed to reduce the risk of flooding in agricultural, urban, and other developed areas. According to the Code of Federal Regulations, a levee is “a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water to reduce risk from temporary flooding.” There are nearly 30,000 miles of levees throughout the country. Consequently, millions of Americans live and/or work near levee systems.

To learn more about levee systems, visit these links:

- › [What is a Levee](#)
- › [History of Levees](#)
- › [Living with Levees](#)
- › [NFIP and Levees](#)

WHAT IS FEMA’S ROLE? WHO DOES FEMA WORK WITH?

When it comes to interacting with communities about their levees, FEMA shares a mission of public safety with its State partners and other Federal agencies, including USACE. That mission involves helping levee owners, flood control districts, community officials, floodplain managers, the media, and other relevant stakeholders understand and properly communicate the risks associated with living and working in levee-impacted areas. This can sometimes be particularly challenging because, while a levee is designed to reduce flood risk, it cannot and does not eliminate the risk of flooding. FEMA’s mission also includes helping communities mitigate their risk, in part by supporting community officials in taking the necessary steps to reduce the impact of flooding on their population, businesses, investments, and infrastructure. The mission is shared by USACE. The levee owner (also referred to as the “sponsor”) also plays a key role in helping the community to understand their risk.

HOW DOES FEMA MAP LEEVE SYSTEMS?

One of FEMA’s top priorities is to have flood hazards appropriately represented on Flood Insurance Rate Maps (FIRMs) for areas impacted by levee systems. These maps are important tools that help a community and its residents understand what areas could be impacted by a flood. When a flood hazard mapping project includes a levee system, several mapping options could be used depending on the condition of the levee:

Accredited Levee System: This levee system meets standards set by FEMA to provide flood hazard reduction for a 1-percent-annual-chance flood. To meet accreditation standards, the community must gather and certify the appropriate data. To learn more, visit:

› [Meeting the Criteria](#)

A99/AR Levee System: Zone A99 and Zone AR regulations apply to levee systems that are either being built for the first time or are being restored or modified to provide flood hazard reduction to at least the 1-percent-annual-chance flood level. To learn more, visit:

- › [Levee System Construction and Restoration Mapping Projects – Adequate Progress \(Zone A99\)](#)
- › [Levee System Construction and Restoration Mapping Projects – Flood Protection Restoration \(Zone AR\)](#)

Non-Accredited Levee System:

If the levee system does not meet the requirement to provide flood hazard reduction for a 1-percent-annual-chance flood, then there are two different approaches a community may take:

› **Levee Analysis and Mapping**

Procedures: For this approach, the community follows the levee analysis and mapping procedures process for non-accredited levee systems. For more on the different procedures, visit:

- [Freeboard Deficient](#)
- [Natural Valley](#)
- [Overtopping](#)
- [Structural Based](#)
- [Sound Reach](#)

› **Provisionally Accredited Levee (PAL)**

System: The PAL designation is used for a levee system when FEMA has previously accredited the system and is awaiting data and/or documentation that will demonstrate that the levee system is still in compliance. To learn more, visit:

- [Provisionally Accredited Levees](#)

